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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,409	03/04/2002	Minghui Hong,	09819-005001	4845

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EXAMINER

EVANS, GEOFFREY S

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,409

Applicant(s)

HONG ET AL.

Examiner

Geoffrey S Evans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-23 and 25 is/are rejected.
- 7) ☒ Claim(s) 9, 10 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The drawings are objected to because in figure 1 element 10 should be labeled as a "laser", element 14 as an "energy meter", element 16 as a "scanning device" or "scanner", element 22 as "micrometer", element 26 as "controller" and element 28 as "photodetector". Please note that 37 CFR 1.83(a) requires black boxes to be labeled. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. Claims 15 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The meaning of "optical radiation" in claims 15 and 25 is unclear. Is it the same as "electromagnetic radiation"? Please clarify. For the remainder of the instant office action the term "optical radiation" is considered to mean "electromagnetic radiation".
3. Claim 22 lacks antecedent basis for "the controller". Claim 24 lacks antecedent basis on line 4 for "the adjustable mount". Respectfully suggest using clearer language in claims 22 and 24.
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-6,11,12,14,15 and 16 are rejected under 35 U.S.C. 102(a) as being anticipated by Sugioka et al. in U.S. Patent No. 6,180,915 B1. The pattern created by Sugioka et al. is considered to be a "mark". Sugioka et al. discloses using a solid substance as the target material. Regarding claims 11 and 12, Sugioka et al. recognizes (e.g. see column 5,lines 40-45) that there is a relationship between the laser energy needed for this process and the distance between the target material and the markable material.

6. Claims 1,2,3,4,5,14,15, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Paananen et al. in U.S. Patent No. 6,442,974 B1. Paananen et al. discloses in column 2,lines 47-48 that the target (vehicle 1) is 1mm from the markable material (glass). Regarding claim 14, Paananen et al. discloses using zinc aluminum alloys or brass, which is a solid substrate at room temperature.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7, 8, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugioka et al. in view of Unternahrer et al. in U.S. Patent No. 5,980,101. Unternahrer et al. teaches monitoring the fluence of a laser beam and controlling the fluence by using a controller (element 150) to achieve a desired physical effect in an industrial application using a laser. It would have been obvious to adapt Sugioka et al. in view of Unternahrer et al. to provide this to improve the laser process by making the laser energy more consistent.

9. Claims 7, 8, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paananen et al. in view of Unternahrer et al. in U.S. Patent No. 5,980,101. Unternahrer et al. teaches monitoring the fluence of a laser beam and controlling the fluence by using a controller (element 150) to achieve a desired physical effect in an industrial application using a laser. It would have been obvious to adapt Paananen et al. in view of Unternahrer et al. to provide this to improve the laser process by making the laser energy more consistent.

10. Claims 13, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugioka et al. in view of Ito et al. in U.S. Patent No. 5,198,843. Sugioka et al. uses a mask to obtain a pattern (mark). Ito et al. teaches that masks have the disadvantage that where simple designs are desired to be marked it requires changing masks every time a new pattern is to be marked (see column 1, lines 33-38). Ito et al. further teaches marking with a laser by using a relative movement between the workpiece and

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the laser beam by using a galvanomirror. It would have been obvious to adapt Sugioka et al. in view of Ito et al. to provide this to more quickly mark a plurality of different designs.

11. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugioka et al. in view of Unternahrer et al. as applied to claim 17 above, and further in view of Ito et al. in U.S. Patent No. 5,198,843. Sugioka et al. uses a mask to obtain a pattern (mark). Ito et al. teaches that masks have the disadvantage that where simple designs are desired to be marked it requires changing masks every time a new pattern is to be marked (see column 1, lines 33-38). Ito et al. further teaches marking with a laser by using a relative movement between the workpiece and the laser beam by using a galvanomirror. It would have been obvious to adapt Sugioka et al. in view of Unternahrer et al. and Ito et al. to provide this to more quickly mark a plurality of different designs.

12. Claims 13, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paananen et al. in view of Ito et al. in U.S. Patent No. 5,198,843. Ito et al. teaches using a scanner device (a galvanomirror) to mark a workpiece by relative movement between the laser beam and the workpiece, and that this technique doesn't have the disadvantage of requiring changing of masks when a pattern is changed. It would have been obvious to adapt Sugioka et al. in view of Ito et al. to provide this to more quickly mark a plurality of different designs.

13. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paananen et al. in view of Unternahrer et al. as applied to claim 17 above, and

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further in view of Ito et al. in U.S. Patent No. 5,198,843. Ito et al. teaches using a scanner device (a galvanomirror) to mark a workpiece by relative movement between the laser beam and the workpiece, and that this technique doesn't have the disadvantage of requiring changing of masks when a pattern is changed. It would have been obvious to adapt Paananen et al. in view of Unternahrer et al. and Ito et al. to provide this to more quickly mark a plurality of different designs.

14. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paananen et al. in view of Merdan et al. in U.S. Patent No. 6,440,503 or Williams et al. in U.S. Patent No. 4,987,006. Both Merdan et al. (element 32) and Williams et al. (element 22) individually teach an adjustable mount operable to adjust spacing between the workpiece (markable material) and a target material. It would have been obvious to adapt Paananen et al. in view of Merdan et al. or Williams et al. to provide this to control the marking (patterning process).

15. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugioka et al. in view of Merdan et al. in U.S. Patent No. 6,440,503 or Williams et al. in U.S. Patent No. 4,987,006. Both Merdan et al. (element 32) and Williams et al. (element 22) individually teach an adjustable mount operable to adjust spacing between the workpiece (markable material) and a target material. It would have been obvious to adapt Sugioka et al. in view of Merdan et al. or Williams et al. to provide this to control the marking (patterning process).

16. Roche et al. in France Patent No. 2,666,759 and Foley et al. in U.S. Patent No. 5,156,938 each teach using a laser ablation process for marking. Burns et al. in U.S.

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Patent No. 4,213,704 has photodetectors in a laser writing apparatus. Newman et al. in U.S. Patent No. 4,814,259 has a laser apparatus with an infrared detector.

17. Claims 9,10 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S Evans whose telephone number is (703)-308-1653. The examiner can normally be reached on Mon-Fri 6:30AM to 4:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703)-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703)-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.


Geoffrey S Evans
Primary Examiner
Art Unit 1725

GSE
June 10, 2003